



INTERIM EXECUTIVE REPORT

**IMPLEMENTATION OF
THE PHOENIX PROGRAM
OF THE UNIVERSITY OF ARIZONA
COLLEGE OF MEDICINE:
DIRECTIONS AND IMPERATIVES**

Prepared for

**ARIZONA COMMISSION FOR
MEDICAL EDUCATION AND
RESEARCH**

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A. Introduction and Context

In August 2004, the University of Arizona (“UA”) and Arizona State University (“ASU”) signed an historic Memorandum of Understanding (“MOU”) under the aegis of their shared Board of Regents (“ABOR”) to advance a major medical school presence in Phoenix. A second medical school program is clearly needed in Arizona, a State with a dramatically rising population and subsequent demand for health care. Arizona already is both underserved and training insufficient numbers of physicians and related health professionals to assure future access to quality health care for its citizens. The MOU is explicit in the intent to charter the new program by extending the State’s only accredited medical school at UA into Phoenix, effectively creating the Phoenix Program of the University of Arizona College of Medicine (“Phoenix Program”). The MOU is similarly explicit that this extension is to be a collaborative effort involving the leadership, faculties, and strengths of both UA and ASU. The site of the medical school development is to be on the Phoenix Biomedical Campus (“PBC”) provided by the City of Phoenix, adjacent to the new Translational Genomics (“TGen”) research facility and planned related investments in biotechnology.

While the MOU addresses key educational and academic planning principles relating to UA and ASU, the document and process could not encompass the broad range of associated institutions that are beyond the fiduciary jurisdiction of the Regents. These include the current UA affiliated teaching hospitals in Phoenix, each governed through a range of public and private formats. Nor could the MOU effectively embrace the very sizeable UA affiliated, but private, clinical faculty physician staff currently organized at their respective affiliated teaching hospitals. Similarly, the City of Phoenix itself, although providing the land for the PBC as an essential partner, is accountable to its citizens for economic development extending beyond the elements addressed in the MOU. Finally, new organizations such as TGen have been chartered with their own missions for advancing biomedical science and economy on the PBC, and although key collaborators in the new medical school program, must nonetheless hold to their own purposes.

By Fall 2004, it was clear an even broader process and mandate were required to galvanize the necessary dialogue across such diverse participants. Governor Napolitano addressed this critical need through an executive order creating the Arizona Commission on Medical Education and Research (“ACMER”), with membership representative of the broad constituency. Kurt Salmon Associates (“KSA”) was engaged to assist ACMER and on a monthly basis beginning in December, KSA has facilitated elements of the Commission’s discussion. We have had further opportunities to meet with, and better understand the diverse aims of, the Universities, teaching hospitals, private faculty, TGen, the City, and the State. Following are our observations and counsel relating to the continuing implementation of the MOU in the context of these many stakeholders. Greater detail, where available, is contained in the accompanying Appendices.

B. The Phoenix Program on the PBC

Based on the specific circumstances in Phoenix relating to timing of budgets, accreditation, building, organizing, and the like, it is clear the full implementation of the final envisioned Phoenix Program must occur in phases.



Introduction

The initial phase – termed “Level I” – is immediate and oriented towards the inaugural matriculating class of 24 students based in the renovated Phoenix High School facilities on the PBC. The initial capital funding for this phase is identified with the PBC site itself, the High School renovations, and ABC1 are all advancing as well and an operating budget for the 24-student class is similarly identified through the steady state graduation cycle of the class. The current teaching hospital and clinical faculty arrangements in Phoenix will suffice to carry Level 1 implementation, with some adjustment for the envisioned Phoenix Track curriculum (the “Curriculum”). A new, dedicated teaching hospital is not needed for Level I, nor is one recommended for this first phase. In sum, this phase is planned in considerable detail, and certainly sufficiently understood to continue proceeding on the timeline envisioned.

The subsequent developments necessary to advance the class to upwards of 150 students – broadly classed as Level II – will require additional capacities and organizational alignments best undertaken once an actual Phoenix Program operation is up and running. Having the Program in place will provide both the dedicated leadership and organizational framework for advancing the range of topics necessary. We suggest these topics, all extensions of the Level I implementation, be based around nine key concepts. Following are brief overviews of these, our assessment of the firm agreements emerging for the Level I over the December 2004-May 2005 period of ACMER meetings, as well as our sense of the Level II considerations going forward.



1. Vision

Context

The collective vision must result in more and better health care for the citizens of Arizona and more physicians to serve the State's escalating need. However, the stated goal of the Regents, and also a goal for the City and TGen, is for the new medical school program to operate at research grade – an aspiration with implications beyond just educating more students. Research success must be nurtured in environments providing both peer collaborators and funding, and the combination of major biomedical education and research in a medical school setting is best advanced through the development of a broader academic medical center environment. Such a broader interpretation of vision, anchored in innovation and excellence in medical education, biomedical research, and clinical care, is believed to be essential to drive economic development through the PBC.

Level I Planning Outcomes

Significant progress has been made over the past few months in defining the Phoenix Program vision that will extend into successive phases. Agreement has been achieved through ACMER around:

- The need to train more and better physicians, a critical outcome for all concerned.
- The medical education provided must anticipate and adopt innovative curricula and teaching methods. This has been initiated via the facilitation of the Phoenix Track Design Team and the intellectual contributions of the UA, ASU, TGen, and related leadership.
- The principle of enhanced economic development through the activities related to the Phoenix Program on the PBC. A greater level of detailed agreement relative to the overall mission and build-out of the PBC site is still pending, although much of the discussion is contingent on the course of the Level II implementation.

At this point a good base of momentum exists around the Phoenix medical education program *per se*, important because this element is on a critical time path for a 2006/7 implementation.

Level II Considerations

Continuing consensus around the evolution of the PBC vision is essential over the coming months. The current work of the Task Forces related to the feasibility of clinical concepts, research concepts, master planning, and the like should provide the necessary factual backdrop for aligning the dialogue. Maintaining and agreeing on a vision should be a relatively high priority to minimize potential friction and conflict over how the PBC site is developed and the type of organizations that are invited, or accepted, as PBC facility occupants. While some stakeholders have advanced aggressive vision for the site to fully incorporate complementary research and clinical elements and operate as a full fledged academic medical center campus, others maintain that a clinical presence in particular is not needed in the current downtown Phoenix market because it likely would be redundant with existing investments. Further discussion of PBC planning occurs in Section 8 below.



2. Leadership

Context

Given the intent of the MOU to extend the UA College of Medicine (COM) and the accountability requirements of the LCME, it is clear the principal leadership in creating the Phoenix Program must flow from the Dean and Chairs of the UA College of Medicine. Given their mandate to collaborate with ASU and with the practical need to do the same with their affiliated Phoenix teaching hospitals and faculty, all located a fair distance from Tucson, this leadership mandate is not a simple task. It is, however, an essential outcome to the success of this entire endeavor as envisioned. (Further discussion of selected medical school organizational models appears in the Appendices.)

Level I Planning Outcomes

While each of the participating organizations has effective leadership structures for the conduct of their own affairs, the creation of a working set of structures across these entities and across geographies continues to be a significant challenge. This is particularly true of the Phoenix Program, of the University of Arizona College of Medicine, where the UA COM must retain clear operating authority while meaningfully factoring in roles and authorities for those organizations and individuals with whom they are collaborating. In what follows this enterprise is simply referred to as the “Phoenix Program.”

A comprehensive process coordinated through ACMER has been identified, and is heavily in motion to support the implementation:

- Adoption of an overall process architecture through which the UA COM can productively engage the many constituencies of the Phoenix community in advancing the work. This is a strongly inclusive process involving multi-representative task forces and team constructs.
- Identification of individual leadership within this process from ABOR, UA, ASU, TGen, the City of Phoenix, the State of Arizona, the teaching hospitals, the voluntary clinical faculty, and other participants essential to the success of the implementation.

While a process is in place, sheer numbers of individuals and the multiplicity of communications will continue to challenge the motivation and patience of all concerned, although hopefully at reduced levels.

Level II Considerations

The express goal of most in both Tucson and Phoenix is to evolve the Phoenix Program over time to approximately 150 students per class. This would become perhaps an even larger program than Tucson itself (now at 110 per class) and, presuming the research activity of the faculty is appropriate to levels found in other outstanding programs, would involve a very significantly sized set of clinical departments and faculty – clearly much larger than what is in Phoenix today at the affiliated hospitals. While the Phoenix Program, regardless of its size, must continue to operate under the ultimate accountability of the UA COM Dean and Chairs, we



Leadership

believe a full-time, geographic (i.e., Phoenix-based) leadership model must be developed for the Phoenix site at the program level, as well as at the departmental, level to best manage ongoing operational affairs successfully.

Specifically, the Phoenix Program involves a collaborative structure, with ASU providing significant academic elements of the program, and we therefore suggest that the UA Phoenix Program leader also have a meaningful joint appointment at ASU. The goal here is to ensure that the Phoenix Program leader can be effectively influential in the academic hierarchy of both universities. Joint academic appointments can be complex for all concerned; however, the Phoenix Program is being shaped in an environment that is in fact complex, diverse, and profoundly challenging. Connections that create relationships and communications among the organizations and people and across institutions will serve to advance implementation initially and solidify program components over the long term.

The evolution of a full-time geographic leadership structure does not obviate the need for the steering committees and current set of task forces, nor does it supplant the current leadership in these forums. The dedicated leadership we suggest is intended to provide a local focus for galvanizing the processes in place and to begin the necessary transition from the current planning-based initiatives to the more operational-based initiatives essential to commencing affairs in 2006/7.



3. Partnerships

Context

Collaborative partnerships across a broad range of public and private organizations are essential to capitalizing on local strengths and to achieving national distinction for the Phoenix Program. These partnerships must be forged and maintained across UA, ASU, the Phoenix teaching hospitals and their physician faculty, TGen, and other public and private sector organizations in the creation of the new faculty, programs, facilities and finances that will anchor the Phoenix Program. Given the multiplicity of participants, the range of missions and the invariable breaks in continuity, the “partnering” process requires more formalized structure to ensure uniform understandings going forward.

Level I Planning Outcomes

Other than the MOU that aligns the academic collaboration of UA and ASU, and the broader collaborative initiatives of ACMER to advance this MOU, there is as of yet no permanent organizational framework for defining relationships among the diverse Phoenix Program constituents beyond voluntary cooperation. A number of evolving relationships are now active in this early planning:

- Collaboration between UA, ASU, and TGen to define programs and faculty for both the educational and research enterprises.
- Collaboration and evolving land use agreements between the City and PBC occupants including UA, ASU, and possible hospital organizations for the provision of clinical activity on the site.
- Affiliation discussions between UA and the teaching hospitals and voluntary clinical faculty relating to the new and expanded training programs envisioned.

The MOU and other guidance such as the PBC master plan (discussed later in this report in Section 8) are invaluable in clarifying common goals and establishing parameters as implementation of the Phoenix Program evolves.

Level II Considerations

The formation of the Commission has enabled the primary stakeholders to conduct a dialogue and advance the planning for the Phoenix Program in a transparent, safe and mutually respectful environment. However, the financial and operational agreements that will need to be legally constructed to implement various aspects of the Phoenix Program will involve, almost exclusively, the University of Arizona COM in one-on-one negotiation with a range of independent entities. While some of these entities may be represented on ACMER, the Commission *per se* is unlikely to have a role in defining or executing these individual agreements.

Where possible, guidance similar to the MOU or the PBC master plan should be developed to provide a visible framework for partnerships and other formal collaborations around the Phoenix Program. The intent of such guidance should not be to inhibit or limit how and with whom partnerships are formed, but rather to ensure that relationships enhance the goals of the Phoenix Program and are creatively structured for flexibility as the initiative matures. Over time, it may be necessary to explore governance structures, at least on an advisory basis, across the many organizations participating on the PBC.



4. Teaching Hospitals

Context

The UA College of Medicine has in place in Phoenix a strong set of teaching hospital affiliations. The extension of clinical training to the full 4-year Phoenix Program must be focused through these institutions, given that the development of alternative venues is not practical in a near-term timeline. (Further discussion of hospital affiliation issues appears in the Appendices.)

Level I Planning Outcomes

After reviewing a range of models with ACMER over the past few months, agreement has been achieved on two key outcomes:

- The Phoenix Program will be initiated by building upon the current set of UA-affiliated teaching hospitals in Phoenix. Although nine such affiliations exist, four of these institutions – Good Samaritan, St. Joseph, Children's, and Maricopa County – have the largest activity levels. Several of these facilities provide superb levels of clinical care and have excellent market recognition.
- All of the hospital teaching programs are organized primarily for training 3rd and 4th year medical students and all will require expansions and adaptations of their programs and staff to accommodate the new curriculum and students.

Bottom line, the Phoenix teaching hospitals will meet the Phoenix Program Level I education requirements; however, they are not currently organized nor academically resourced to realize the vision of ABOR and the Commission beyond Level I.

Level II Considerations

The creation of the Phoenix Program in the 2006/7 timeframe is possible solely because of the current set of UA teaching hospitals in Phoenix and their medical education commitments to date. The diversity of participating institutions provides a further opportunity to extend the range of medical education experiences to be far more representative of actual practice than is often found in traditional "university hospital" environments. The challenge will be in extending the roles of these institutions to serve as the lead teaching hospitals for the envisioned 150-student, research intensive Phoenix Program. Specifically, these institutions are highly competitive with each other along a host of programmatic fronts. Most have made, or are planning to make, significant capital investments in both new and expanded programs and facilities. The result of these dynamics is that none of the hospitals will have any interest in added capacity in the Phoenix market unless they provide or control it. In addition, with the very notable exception of programs such as the Barrow Neurological Institute, the majority of the current Phoenix-based academic departments – and therefore their teaching hospitals by extension – are not engaged in levels of extramurally funded research approaching the Level II aspirations for the Phoenix Program. Even if based across several institutions, programs of the stature of the Barrow must be developed over the coming decade in at least one of each of the clinical departments.



Teaching Hospitals

Although a few models exist where distributed clinical sites are utilized – for example, in Boston – such settings have been a great many decades in the making, and this does not appear to be an acceptable timeframe for accomplishing the aims of the MOU in Phoenix. If a distributed teaching hospital model is to be sustained, then at least some of the current UA affiliated teaching hospitals in Phoenix will have to make major strategic and mission decisions to fully embrace the educational and research missions necessary to achieve comparability with the schools at “research” universities. This ultimately requires specific statements of intent and firm multiyear financial commitments by the hospitals. To the degree this does not occur, ABOR must consider alternative strategies to provide such settings over time. For the moment, the UA-affiliated Phoenix teaching hospitals essentially have the strategic “right of first refusal” to evolve into the necessary roles. For them to do so will be an ongoing process requiring transparency and structure to ensure progress.



5. Clinical Faculty

Context

The UA College of Medicine has in place a large number of private clinical faculty appointments in Phoenix and this complement will provide the core clinical training capacity for the Phoenix Program. The existence of these faculty is particularly critical for the 2006/7 start year, given the development of alternative venues is not practical in this near a timeline.

Level I Planning Outcomes

ACMER has also reviewed a range of clinical faculty organization models, and achieved agreement that:

- The core of the initial clinical faculty for the Phoenix Program will be constituted from the large private faculty staff currently in place at the Phoenix Track affiliated hospitals. However, once finalized, the new curriculum will call not only for an escalation in numbers of medical school students in Phoenix, but also for earlier clinical involvement – in the first and second years as well as in the third and fourth. Thus, there is no question that the clinical faculty must be expanded to provide both the needed capacity and skills.

To date, the clinical practice organization of such expansions has not been determined. Currently, virtually all the private clinical faculty are organized in practice plan arrangements based in their incumbent teaching hospitals. These practice arrangements have proven quite acceptable for the faculty and their hospital partners from both compensation and accountability perspectives. Significant anxiety does exist, however, around the possibility of any additional “University” based practice plans being created in Phoenix – the presumed concern being that such an entry may well signal the beginning of an eventual consolidation into a more traditionally structured medical school model.

Level II Considerations

As is the case with the teaching hospitals, the private practice plan structures as currently organized will not support the longer range Level II objectives envisioned for the Phoenix Program. Nationwide, partial allocations of practice plan revenues provide key sources for funding academic programs and for seeding research time for faculty in virtually all of major academic departments. Moreover, successfully accomplishing such faculty models requires that a fine balance of professional work contribution, compensation, and career satisfaction be achieved, and this not a simple task. While these funding models have on occasion been accomplished in private practice structures in New York and Boston, such structures typically do not reserve sufficient time and dollars to advance the research agenda. Rather, the private practice structures generally allocate more to individual compensation, do not build reserves for future academic investments, and do not attract and retain the numbers of promising investigators needed to drive the research agenda.



Clinical Faculty

The necessary expansion of the clinical faculty in Phoenix, and the basic economic structures underpinning their practice plans, are among the most important considerations in achieving the aims of the MOU and the aspirations for the Phoenix Program. These dynamics will influence not only the types and talent of clinical faculty that the Phoenix Program will be able to attract, but more importantly the caliber of departmental leadership and vision over time. The national experience is that while the quality of leadership is never assured by the correct structure, it is almost always defeated by the lack of it – i.e., your top candidates won't come.

One obvious course is to evolve the current set of private practice department structures already based in the hospitals, augmenting these with the academic objectives, research efforts, and funds flows necessary to advance their capabilities in line with Phoenix Program aspirations. This will be a challenging task, as the majority of private practice departments do not have a strong research ethos, nor can their expected compensation models easily accommodate the associated costs. Carefully planned evolutions are possible, but these require the utmost in collaboration between the private plan leadership and the Dean and Chairs of the College of Medicine. This avenue appears to be the best initial approach and should be pursued with those current Phoenix departments having the most compatible values and leadership with their counterparts in Tucson.

Another obvious response to the issue is to charter a new "University" plan for the more research oriented faculty and leave the private plans as currently structured. This can rapidly become contentious and potentially explosive for all concerned. Research intensive faculty still care for patients as practicing physicians and compete for these patients with like specialists from other groups. The cohabitation of economically separate UA-affiliated practice groups in the same specialties, particularly in the same hospital settings, represents at best an uneasy peace and more typically outright conflict. This approach can only be recommended as a transitional step and one taken only in the event the current private structures cannot or do not evolve as needed.

As with the teaching hospitals, the current private faculty structures must evolve very significantly to meet the scholarly challenges inherent in the vision of the MOU and the Commission. While the Phoenix Program does not necessarily require the typical "academic practice" plan model to thrive, neither will the typical "private staff" plan suffice.



6. PBC Clinical

Context

The initial development of a clinical enterprise on the PBC is a key element to both the research and economic development objectives of the campus. The initial activity should focus on programs with major clinical research and translational medicine applications to serve distinct market roles in Phoenix and align with the strengths of TGen. It is possible these initial facilities will begin from a base of ambulatory programs, perhaps with short-stay beds, and evolve over time to broader inpatient activity. The initial candidate anchor program is most likely cancer.

Level I Planning Outcomes

In evaluating the options for clinical development on the PBC, two directions have been agreed upon in ACMER:

- The principle of having clinical activity on the PBC. However, no firm consensus exists as to the specific clinical facility concept to be developed. This is particularly true of the current complement of major UA-affiliated hospitals, which have cited market feasibility, existing capital commitments, and physician support as potentially problematic to the concepts advanced to date. At the same time, while no one hospital has committed to a specific major development, none wishes to be left out of the PBC considerations. This has resulted in an underlying sentiment to somehow involve multiple interested institutions in complementary roles on the PBC. While possible, the reality of the competitive nature of these hospitals with one another complicates such an outcome, particularly for any inpatient capacity that might be envisioned.
- Consensus that the clinical activity has a specific programmatic focus, such as cancer, that would have synergy with the expected productivity of TGen. An objective of the Clinical Task Force is to further explore the question of pursuing a clinical concept that is solely ambulatory care versus a broader operation including inpatient services.

Further discussion of PBC clinical issues appears in the Appendices.

Level II Considerations

The full potential of the PBC and the Phoenix Program – educational, economic, talent, research, and clinical – likely will not be realized until a full academic medical center evolves on the campus. The demographics and demand curves in the greater Phoenix market will certainly support a substantial growth in clinical capacity, so this level of clinical development is not redundant over the longer term, nor does it cannibalize existing investments in clinical capacity that we believe will be fully utilized quickly.

This is clearly a long term process, with several possible end stages. One possible and attractive vector is for the PBC clinical enterprise to evolve into a more broadly defined “research hospital.” A facility with this profile would have a proscribed market niche and perhaps a complementary role vis-à-vis the strong set of existing



UA-affiliated teaching hospitals. As a new facility yet to be populated with medical staff, the concept also provides opportunities to consider new practice plan models, chiefs of service structure, roles for the Universities and the like. Also, the facility would be positioned to play a broader role in education as the clinical services broaden over time. In any case, the longer term view should be kept in sight such that any initial set of clinical programs, facilities, medical staff, and governance not only anticipates, but actively *enables* a thriving evolution towards this broader concept.

As to a number of separate fiduciary and competitive hospitals co-venturing with clinical programs on the PBC, this can certainly occur and is relatively simple to accomplish in the ambulatory development. Inpatient venturing is possible but more complex and probably unlikely in the highly competitive Phoenix hospital market. Beginning with an ambulatory development may be easier for the moment, but the issue of confronting which hospital(s) ultimately will sponsor beds on the PBC will not abate and must eventually be addressed.



7. Research

Context

Virtually all of the best medical schools educate students and conduct research and the quality of both is improved by the combination. Achieving the vision for the Phoenix Program as a peer of these medical schools will require additional basic science and clinical faculty, additional space at the PBC and at the teaching hospital sites, and reliable funding streams. TGen and the new Arizona Biomedical Collaborative (ABC) buildings at the PBC will clearly support the research priority, as will those facility expansions being pursued by the affiliated Phoenix hospitals.

Level I Planning Outcomes

The University of Arizona and Arizona State University both have distinguished research programs, and the MOU clearly expresses their desire to have research as an integral element of the developments in Phoenix. Agreement has been reached through the ACMER process on two key directions related to research:

- The Phoenix Track curriculum as envisioned by the ACMER Design Team will make research integral to the medical student experience, ensuring that all physicians graduating from the program are well-versed in managing the complex scientific data that will increasingly influence therapeutic decision-making and individual care. The clear intent is not to create more researchers nor is this to be expected, but to ensure the training experience creates better practicing physicians.
- Direct and major research development on the PBC is a high priority and should engage organizations beyond just the Universities. The opening of the TGen/IGC headquarters and the construction underway for the Barrow Neurological Institute are two striking initiatives which, when coupled with ASU's new Biodesign Institute in Tempe, represent a substantial infusion of new resources and capacity into the research and biotech communities.

The economic and societal impact of research initiatives on the State of Arizona is a broader topic than the level of physician training to be accomplished. As a result, research is expected to develop along an interrelated, but distinct track, over both the near and longer term.

Level II Considerations

While there is agreement the Phoenix Program must have a strong research base, the infrastructure necessary for attracting, nurturing and retaining a cadre of world class investigators, post-doctoral fellows and graduate students is not yet in place. This infrastructure includes not only the laboratories, libraries, animal facilities and grants and contract administration components that are fundamental to any robust research enterprise, but also dynamic clinical environments that embrace the “bench to bedside” imperative of translational and clinical research. To date, most of the attention of ACMER has focused, appropriately, on issues of the curriculum, the availability and configuration of affiliated clinical training sites and legislative funding. These have appeared to be the highest priorities for opening the new medical school



program, with the details of research to follow or to evolve in parallel. In fact, the sufficiency of the research infrastructure and related economics will quickly rise in importance as faculty recruitment begins and the candidates negotiate for lab space and start-up packages.

The profiles of successful – well-funded – “principal investigators” are varied. They may be clinical faculty at the affiliated hospitals with a part-time interest in research and industry contracts to conduct clinical trials in their private practices. These faculties may well choose to expand their research efforts if funding and space permit; however, the indisputable national experience shows that the most distinguished medical research is accomplished by full-time faculty with a very different profile. These investigators may be sponsored and organized through existing department and practice organizations, but they more likely are research “entrepreneurs” who teach occasionally and only see patients with conditions relevant to their research interests. They may have “hard-money” faculty lines at a university, but those dollars are incidental to their extramural funding or to the dollars accruing to their labs from licenses and patents.

The few hospitals which support research without university “hard money” faculty lines – the most notable being MGH and the Brigham in Boston – do so primarily with investigators who live on “soft money” and who fund their salaries, their labs and often their fellows and students with grants and contracts. These institutions routinely contribute 15% of the total research expenditures, transferring funding from their clinical enterprise to their research operations. These hospitals are committed to their research missions and make sustained capital investments in their research infrastructure. MGH this month is opening 300,000 square feet of new, leased research space adjacent to their campus and over the past decade has built-out the Charlestown Navy Yard as a vibrant research community with nearly a million square feet of space.

The Phoenix Program likely will have a research enterprise that combines models and supports principal investigators with an array of funding arrangements and this diversity, over time, will be one of the program’s great strengths. The hurdle that requires considerable vigilance in the near-term is determining how best to jump-start the research engine and where to look for early and continuing commitments for research capital.



8. PBC Master Plan

Context

The PBC should be master planned to anticipate the needs of a major academic medical center, developed in conjunction with the City of Phoenix, and constructed as “modules” that provide space for initial educational, clinical and research activities and future growth.

Level I Planning Outcomes

The PBC development has as a major focus the infrastructure relating to the Phoenix Program, however, this is but one of several initiatives. ACMER has agreed that:

- The master plan for the initial 15 acres of PBC real estate and the remaining 500,000 square feet of facilities should be confirmed and priorities set on how the site is zoned for various occupancies.

The 15-acre campus has a potential urban build-out of a million square feet and has been planned for development of academic and research facilities with collaborative public-private partnerships. Facilities completed or currently in design will consume approximately a quarter of the million square feet and include the TGen/IGC Headquarters (170,000 SF) and Arizona Biomedical Collaborative, Building 1 (100,000 SF). In addition, design for the renovation of the Phoenix Union High School (62,000 SF) is underway for the opening class of the Phoenix Program of the University of Arizona College of Medicine. Continuing development anticipates ABC-2 (~100,000 SF), a vivarium (~50,000 SF), a new medical school building (~150,000 SF) and related parking structures as well as facilities for industry biotech companies. These facilities are likely to consume as much as another third of the PBC real estate.

As hoped, the opening of TGen and the aggressive planning for the Phoenix Program have attracted the attention not only of biotech companies, but also of clinical providers and other UA colleges interested in having proximity to TGen investigators and UA medical school faculty. Specifically, the UA College of Pharmacy is now exploring alternative PBC sites.

Level II Considerations

The critical challenge for the City in planning for the PBC and adjacent properties is to ensure that a preferred mix of occupancies is achieved and that campus development enables continuing growth of each enterprise. The set of occupancies assumed in the initial PBC master plan were academic (classroom and administrative facilities for Phoenix Program), collaborative research (bench and computational research facilities) and industry (translational research and biotech incubator facilities). As the Phoenix Program planning evolves, demand for real estate to accommodate clinical research and pure clinical occupancies as well as for other academic programs – in particular the UA College of Pharmacy – have arisen. The core 15-acre PBC site can accommodate these new occupancies, but only if the expansion of TGen, the ABC's, and the medical school are limited.



Maturing (and mature) academic medical centers have voracious real estate appetites and many of the first tier medical schools nationwide are facing difficult and expensive decisions as they deplete their property portfolios. Consequently, it is imperative that the City establish priority occupancies for the core PBC site and continue to acquire adjacent real estate at a steady pace.

Master planning for the PBC should give careful consideration to several factors and recognize that the response to each of these factors will have an impact on the character of the campus environment both initially and over time.

- **Expansion**

The 15 acres comprising the PBC will be quickly consumed. The size of the campus is relatively small. Multi-use academic and research campuses can rapidly grow to three times the projected PBC size in terms of occupant square footage, particularly if a clinical enterprise is included.

- **Highest and best use**

Each of the scenarios defines the “highest and best use” of PBC real estate differently, ranging from Scenario 1 where the uses are narrowly defined to Scenario 4 where the most inclusive set of uses is proposed. The “preferred” master planning Scenario may well depend on the City’s ability to continue to acquire adjacent properties and to view the initial 15 acres as the “core” of more extensive development. “Highest and best use” of the current PBC site also may be determined based on the most immediate needs of the confirmed occupants – TGen, ABC-1, ABC-2 and the UA College of Medicine – and careful evaluation of which synergistic or supporting functions can be farther away (including “off-site” parking) and/or developed later in their evolution.

- **Density**

The initial master plan for the PBC creates a high density, urban environment which will include tall buildings and relatively little open space. Maximizing use of the PBC real estate surely has economic value; however, the quality and character of the campus environment, as well as access and traffic patterns, are easily compromised as density increases. Indeed, the density proposed for the PBC may be counter to the Phoenix “look and feel” and may create a downtown destination that is difficult to penetrate and enjoy.

- **Connectivity**

The proposed light rail system will be four blocks west of the PBC – a convenient distance for many potential occupants, but prohibitive for others, in particular patients participating in clinical research. Evaluation of the master planning scenarios should consider connectivity issues for each of the occupants. Nursing students, for example, from the ASU downtown campus may be scheduled for classes or labs in College of Medicine or Pharmacy facilities. Assumptions about how these students make the “connection” – whether they drive, walk or take a multi-campus van – should be part of the master planning concept.



- **Zoning**

Long-term viability of the PBC will be directly related to the clarity of the master plan in defining priority occupancies and preserving their options on the available real estate. Enforcement of the intent of the master plan will be easiest if the rationale for giving priority to these occupancies is stated and easily understood. Further, if the master plan limits the occupancies, then it should address where and how the “omitted” occupants who want proximity to the PBC can be accommodated (e.g., on adjacent parcels, along the light rail line, on properties being developed by others).



9. Stewardship

Context

The continued leadership of the Arizona Commission for Medical Education and Research (ACMER) and the Arizona Board of Regents (ABOR) will be necessary to ensure progress across the broad range of participants and constituencies involved in the Phoenix Program. This is likely to be the case for at least the initial years of implementation.

Level I Planning Outcomes

The ACMER must be credited with the significant progress that has been made in the implementation of the Phoenix Program. In bringing together the major constituents and providing a transparent forum for vetting issues, ACMER established a basis of trust among the members and served as a catalyst for addressing apprehensions and conflicting interests. Noteworthy among the accomplishments under ACMER auspices have been the work of the Design Team, which has produced the vision and themes for the Curriculum and the development of a task force structure that broadens the base of participation in the implementation process.

Level II Considerations

ACMER will continue to play a critical role in shaping the collaborations and partnerships – formal and informal – necessary for the Phoenix Program to succeed and in ensuring the timely development of the Curriculum. Even though it meets in a public forum, the Commission is viewed as a “safe haven” for discussion of challenging issues and for working through alternative approaches to addressing those issues. The Commission must recognize that it alone has the clout to orchestrate and meld the interests of the independent stakeholders and, in so doing, realize the aspirations and common goals of all.